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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/528,804

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Paul Cedric Campbell Hackwell

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MCLEAN, VA 22102

EXAMINER

MULLER, BRYAN R

ART UNIT

PAPER NUMBER

3723

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/528,804

Applicant(s)

HACKWELL ET AL.

Examiner

BRYAN R. MULLER

Art Unit

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-4 and 14-19 is/are rejected.
7) ☒ Claim(s) 5-13 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 23 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date 4/15/2005
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 302 (Fig. 6), 321 (Fig. 7), 323 (Fig. 7) and 891 (Figs. 8 and 13). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: Several reference numbers are provided in the specification that are used to refer to more than one part. Specifically, reference number "110" is indicated as a chamber and a hood-shaped part (lines 17 and 19 of page 4), reference number "240" is indicated as a turbine and an impeller (pages 4 and 6-14), reference number "200" is indicated as an

end of the housing and a movable button (pages 6-11 and 14) and reference number "244" is indicated as a arrows and a secondary impeller (pages 7-11). Each reference number should only be used to represent one part.

Appropriate correction is required.

Claim Objections

3. Claims 5-13 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claims. See MPEP § 608.01(n). Accordingly, the claims 5-13 have not been further treated on the merits.
4. Claim 18 is objected to because of the following informalities: the term "the discharge outlet" lacks proper antecedent basis. For the sake of the current Office Action, it will be assumed by the Examiner that the applicant is intending to refer to the passage between the suction inlet and the connection of the turbine chamber with the suction inlet passage as "the discharge outlet". Appropriate correction is required.
5. Claim 19 is objected to because of the following informalities: the preamble of the claim appears as though it is intended to be an independent claim. However, claim 19 does refer back to previous claims in the body of the claim. It is assumed that the claim is intended to be an independent claim, thus it is suggested that the applicant replace the reference to the previous claim(s) with the actual claim limitations that are intended to be included in the independent claim, written out in full. Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-4 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Atsushi (JP 10286202).

8. In reference to claim 1, Atsushi discloses a vacuum cleaning head comprising a housing having a suction inlet (26), an agitator (60) for agitating a floor surface which is rotatably mounted in the housing, a first air turbine (50) driving the agitator, a turbine air inlet (140), separate from the suction inlet, admitting air to the first turbine, and a control (160) preventing rotation or reducing the speed of rotation of the agitator, the control being configured to be responsive to a flow of air to or through the first turbine.

Paragraph 43 of Atsushi discloses that the control 160 will block the turbine air inlet port 140 in the case that the degree of vacuum in the sucking wind way 40, which is directly connected to the suction inlet, and will cause the vacuum in the turbine room 30 to increase. Thus, the position of the control (160) is clearly responsive to an increased flow through the first turbine (through turbine room 30).

9. In reference to claim 2, Atsushi further discloses that the control (16) is moveable between an open position, in which it admits air to the turbine, and a closed position in which it prevents air from reaching the first turbine. Paragraph 43 of Atsushi also

discloses that, when the control (16) is in the closed position, the revolving speed of the turbine falls rapidly and the turbine stops, thus it is inherent that the closed position prevents air from reaching the turbine because the turbine would not completely stop if any air were reaching it.

10. In reference to claim 3, in the normal position shown in the abstract drawing of Atsushi, the control is biased into the open position by gravity. Therefore, the control is normally biased to the open position.

11. In reference to claim 4, it is also inherent that the control may be moved into the closed position by a user at least by turning the vacuum head upside down such that gravity will move the control into the closed position.

12. In reference to claim 19, Atsushi discloses that the cleaning head is for a vacuum cleaner, thus disclosing a vacuum cleaner comprising a vacuum cleaning head according to claims 1-3.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Atsushi (JP 10286202).

15. In reference to claim 14, as discussed supra, relative to claim 2, Atsushi discloses that the control (160) will entirely stop airflow through the turbine chamber when in the closed position, thus it would have been obvious that the control either comprises a seal thereon or forms a seal when moved to the closed position.

Therefore, it is obvious that the control member either comprises a seal or acts as a seal itself, thus the cleaning head of Atsushi obviously comprises a seal to seal the turbine inlet in the closed position.

16. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atsushi (JP 10286202) in view of Kirby (2,648,396).

17. In reference to claim 15, Atsushi discloses the vacuum cleaning head, as discussed supra, but Atsushi fails to disclose that the vacuum head comprises a valve for admitting air to the cleaning head to reopen the turbine air inlet. Kirby discloses a vacuum cleaning head and teaches that it is desirable to provide the vacuum cleaning head with a pressure relief valve (87) to the cleaning head to reduce pressure within the head in the case the air intake(s) become clogged or sealed by a carpet or other obstructions. Thus, the valve will prevent extremely high vacuum conditions that may damage the motor of the vacuum or other parts of the vacuum head. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a similar pressure relief valve, as taught by Kirby, to the cleaning head of Atsushi to prevent an extremely high vacuum condition, that may occur if the suction inlet (26) becomes clogged or sealed, which will also cause the control (160) to close off

the airflow through the turbine chamber (30), thus blocking all possible air intakes to the vacuum head. Further, a pressure relief valve would effectively relieve the increased vacuum condition that causes the control (160) to move to, and remain in, the closed position and would obviously allow air into the cleaning head and allow the control to reopen.

18. In reference to claims 16 and 17, Kirby further discloses that the pressure relief valve is positioned on a rear portion of the cleaning head, opposite the suction inlet, which will clearly allow the valve to relieve pressure within the vacuum head if a blockage occurs anywhere between the suction inlet and the relief valve. Therefore, it further would have been obvious to provide the suction relief valve to the vacuum head of Atsushi on a rear portion, opposite the suction inlet, which would also be downstream, of the first turbine and positioned on the opposite side of the housing to the control, since the control is positioned on the front of the housing.

19. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Atsushi (JP 10286202) in view of Conrad (6,099,661).

20. In reference to claim 18, Atsushi discloses the vacuum cleaning head, as discussed supra, but Atsushi fails to disclose a plurality of restricting devices arranged across "the discharge outlet". Conrad discloses a vacuum cleaner head having a suction inlet (40) and teaches that restricting devices (200 provide 2 restricting devices 272 in Fig. 10c) may be provided within the cleaning head (in an area considered to be equivalent to the applicant's disclosed "discharge outlet") and Conrad teaches that the

restricting devices may be moved closer or further from the suction inlet to increase or decrease airflow through the suction inlet to accommodate for the absence of an agitating brush, when the agitation brush is deactivated. Therefore, it further would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a similar restricting device (200) optionally having a plurality of restricting devices (272) thereon, within the vacuum head of the Atsushi cleaning head (in a similar location considered to be "the discharge outlet"), as taught by Conrad, to increase the airflow through the suction inlet to accommodate for the absence of agitation provided by the rotating brush when the brush is deactivated by the control (160) being moved to the closed position.

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Melzner et al. (6,151,752) and Berg et al. (5,088,0149) both disclose vacuum cleaning heads having similar structure and function as the applicant's claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN R. MULLER whose telephone number is (571)272-4489. The examiner can normally be reached on Monday thru Thursday and second Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J. Hail III can be reached on (571) 272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bryan R Muller/
Examiner, Art Unit 3723
6/10/2008